

Staying Healthy

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I'd like to preface this by saying I am NOT a medical professional – what I am is a research scientist, employed for 20 years of my professional life as such in Australian research institutions, and what I'm doing here is compiling the research of medical professionals, which I've been investigating since around 1995. So I suggest you do not take my word for anything, but check out the original research.

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Anyway – this is a summary of the research I have encountered, as a potential protocol for improving your chances of staying healthy, by boosting your immune system. Ultimately there are not really any “cures” for any form of disease; it is your immune system in combination with your genetics and general physical and mental health that will determine how quickly you will recover from illness, sometimes in combination with help provided in various forms by medical professionals (e.g. ventilators, surgery, defibrillators, prescribed medicines, etc etc).

That being said, there are two major nutrients whose ability to effect our immune system is vastly underestimated by most people, including those in the medical arena, in my opinion (C10; see my [About](#) page for the explanation of my C and H ratings). These are Vitamins C and D. I will go more into Vitamin C below, but in view of the current pandemic and its relevance I will for now discuss Vitamin D first.

Vitamin D

One of the most essential vitamins is Vitamin D, which fortunately our bodies can make themselves with just a bit of exposure to sunlight (well, the Ultraviolet A and B in sunlight). In some countries, vitamin D is listed in micrograms (μg or mcg), in others international units (IU). 1ug is equivalent to 40IU. Whilst the recommended daily intake (RDI) for most adults in Australia and New Zealand (<https://www.nrv.gov.au/nutrients/vitamin-d>) is only 10ug (i.e. 400IU), Osteoporosis Australia recommends 1000-2000IU/day for the majority of us that don't get out into the sun that much, and in view of the research below it looks like *4000-10000IU or equivalent per day* is the sort of dose you should be getting to ensure your immune system is healthy and hopefully you will remain asymptomatic in the current pandemic. (Update – after taking around 10000IU/day for over year a blood-test revealed my Vitamin D levels were a bit high – my doctor informed me that he wouldn't recommend 10000IU/day unless I had cancer or COVID-19 and then only for a limited time, and that 5000IU/day would be much better long-term. He also said that there are rare individuals that can reach really high-blood levels with only low-levels of supplements, so it's best to have blood tests done on your levels over a period of time in conjunction with your doctor to find the right amount for you individual physiology).

Sunlight and fresh air was one of the most effective treatments for 1918 flu pandemic (see e.g. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4504358/>), and it was common prior to antibiotics for the wealthy when they became ill to head into the country and bask in the Sun, breathe in the fresh air and drink fresh water.

Ideally you should get your Vitamin D via Sun exposure; in Australia you might only need around 10 minutes in Summer per day, to 30 minutes in Winter if you have fair skin with just your arms exposed according to

<https://www.osteoporosis.org.au/sites/default/files/files/vitdconsumerguide.pdf>,

although if you have darker skin you may need up to 6 times as long. As per <https://www.medscape.com/answers/128762-54304/what-is-the-recommended-sun-exposure-for-production-of-vitamin-d> “if sun exposure produces slight

pinkness, the amount of vitamin D produced in response to exposure of the full body is equivalent to ingesting 10,000-25,000 IU”. That may be difficult, especially in Winter, in which case you might be all right with some foods as per <https://www.healthdirect.gov.au/foods-high-in-vitamin-d>, especially oily fish.

Vegetarians have even more issues; some mushrooms have a bit of Vitamin D in them, but otherwise you’ll have trouble getting enough just from food, especially anywhere near 10,000IU.

Long term lack of vitamin D as well as depressing the immune system leads to rickets, osteoporosis, and in many people multiple sclerosis. Lack may also lead to depression and SAD (seasonal affective disorder), plus issues in pregnancy (<https://www.health.gov.au/resources/pregnancy-care-guidelines/part-g-targeted-maternal-health-tests/vitamin-d-status>). This can obviously be a problem currently for those people quarantined at home, especially for people in Autumn and Winter.

It was long ago demonstrated that Vitamin D₃ prevents colds and influenza. A meta-analysis published in 2017 (<https://www.bmj.com/content/356/bmj.i6583>) confirmed this finding with the lead investigator, Professor Adrian Martineau from QMUL, concluding that “the reduction in risk of acute respiratory infection induced by Vitamin D was on a par with the protective effect of the flu vaccine”.

Actually that’s probably too conservative, seeing as the average flu vaccine is only about 50% effective, and can be under 20% (<https://www.cdc.gov/flu/vaccines-work/effectiveness-studies.htm>). For example, consider the findings discussed in the Radiolab Podcast at

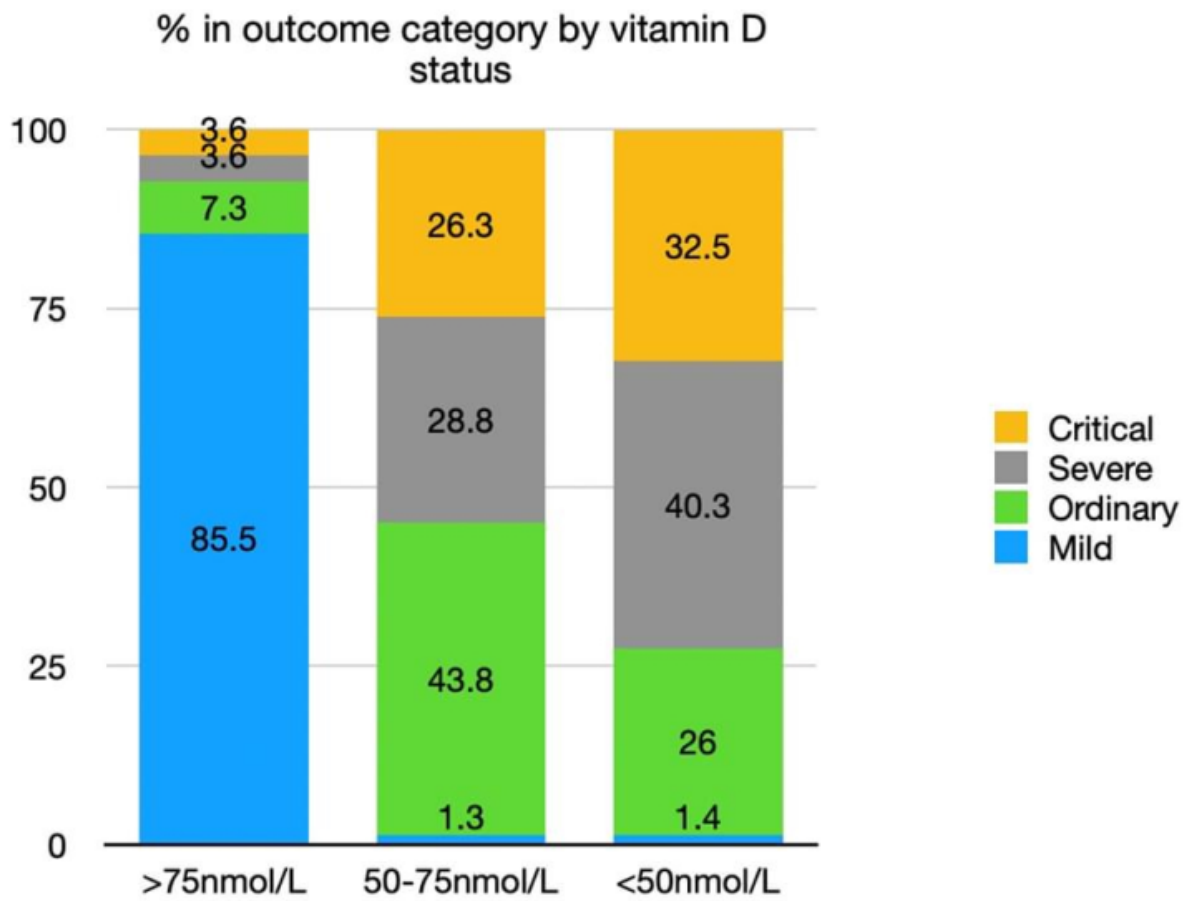
<https://www.wnycstudios.org/podcasts/radiolab/articles/invisible-allies>. It was

found that people staying at homeless shelters across Massachusetts and beyond (California, Georgia, Washington) in the US had remarkably few problems with COVID-19, despite the fact that you would generally think the people there would have poor health and compromised immune systems due to lack of access to a good diet, clean water and living conditions. In fact once testing became available it was shown that 30-40% of them had contracted the virus, but *none* of them were showing symptoms – i.e. *all of them were asymptomatic*. The only reasonable explanation for this is that being homeless these people were a lot more likely to be outside during the day and hence getting a good amount of Sun exposure. Unfortunately as I write this the US is going into Autumn, so the reduced Sun exposure is unlikely to help them as much, especially in the Northern states.

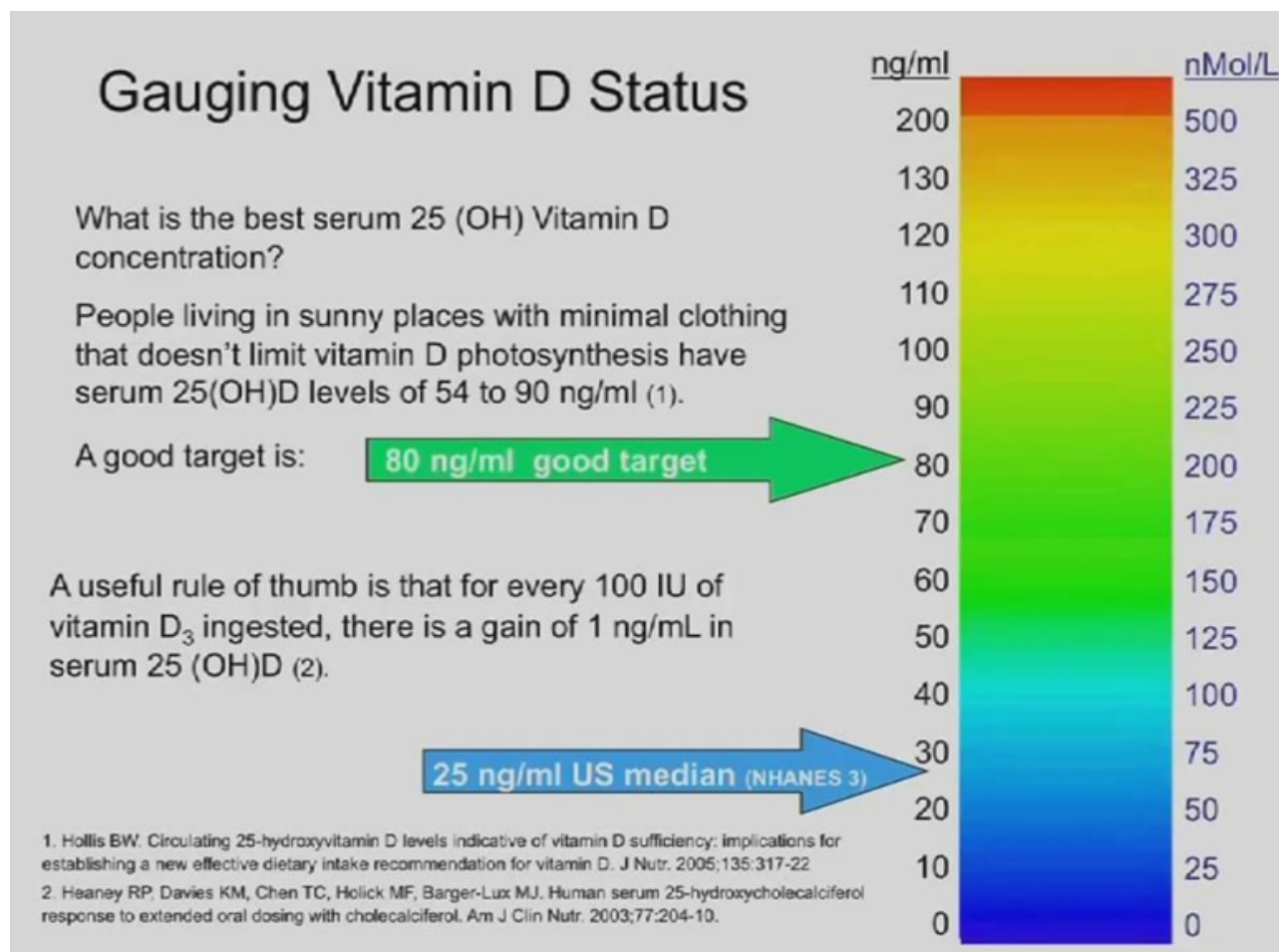
Here are a few articles which discuss the benefits of Vitamin D in treating various illnesses, or conversely how low levels of Vitamin D are generally found in people suffering the worse symptoms of various illnesses, including COVID-19:

These articles are also extremely interesting in that they show how the mortality rate of different countries varies substantially, in line with the average level of Vitamin D in those countries. You may expect that people would have good levels of Vitamin D because they are closer to the equator, but conversely citizens of countries closer to the poles (especially the Scandinavian countries) tend to have the highest levels as they have realised for some time that they need to supplement, especially in Winter, to avoid many health issues:

Here's a couple of images below that neatly indicate how those with symptoms correlate with low levels of vitamin D, and the sort of levels you should probably be aiming for, thanks to Dr Jack Kruse.



Symptoms vs Vitamin D levels



Vitamin D blood serum levels

Now, it is extremely common for those in the medical community to be very conservative when it comes to recommending forms of treatment for illnesses, which is fair enough when you're talking about a treatment that is new, expensive, or is untested and so we don't know what side-effects it might have. Similarly if the difference between a dose doing you good and doing you harm is small. But none of these is the case for Vitamin D. It has been around in our body as long as there has been daylight, it is extremely cheap – sunlight is generally free, and you can pick up even 10000IU capsules for only around 10c each (so 3-5c/day if you take one of these every 2-3 days), plus we know it is vital for immune system function in general and for warding off the effects of many illnesses. I've also been unable to find any indication of symptoms from overdose of Vitamin D in adults occurring when taking supplements under 40000IU per day long-term (<https://www.mayoclinic.org/healthy-lifestyle/nutrition-and-healthy-eating/expert-answers/vitamin-d-toxicity/faq-20058108>, <https://www.healthline.com/nutrition/how-much-vitamin-d-is-too-much>,

<https://vitamindwiki.com/Overview+Toxicity+of+vitamin+D>), especially if you're drinking the recommended amount of water (although as per my update above an appropriate amount should be determined in conjunction with your doctor, and 10000IU/day is unlikely to be suitable unless you have a severe medical condition). So bearing in mind all the above, WHY WOULDN'T doctors recommend that at least everyone going into a hospital or aged care facility or experiencing any form of respiratory illness take a capsule of a few thousand IU of Vitamin D daily?

UPDATE: On October 28th 2020

(<https://www.thetimes.co.uk/article/coronavirus-in-scotland-vulnerable-will-receive-vitamin-d-supplements-zc8stdpkh>) it was announced in The Times that vulnerable people in Scotland would be given a free four-month supply of vitamin D supplements and a few days later it was suggested that Boris Johnson would also follow the same example in England

(<https://www.thenational.scot/news/18841488.boris-johnson-set-follow-nicola-sturgeons-policy-vitamin-d-supplies/>, <https://www.nutraingredients.com/Article/2020/11/04/UK-s-PM-may-provide-free-vitamin-D-in-coronavirus-fight>). Hopefully other governments will follow suit (as of July 2021 this has not happened).

Note that Dr Anthony Fauci has stated he has taken Vitamin D supplementation in the past, and isn't against taking Vitamin C either in order to help boost your immune system (e.g. <https://www.health.com/nutrition/vitamins-supplements/dr-fauci-vitamin-c-and-d>).

Vitamin C

Vitamin C (VC) is an essential nutrient used by our bodies for various purposes, especially by the immune system – if you have to jump on the war analogy bandwagon as every media institution seems keen to do, VC is used by our immune system mainly as ammunition. Low ammunition is a problem as that means you will get overrun by the enemy; large amounts of ammunition at the wrong time is also not of much use – you may hold off the enemy for a while but they will then overrun you whilst you are waiting for resupply. So the optimum

solution is to have a decent amount of ammunition constantly being fed to you. By the same token the best way to take VC is in small amounts over the day. The research supports the idea that Vitamin C is not really a vitamin in the strict definition of the term – it should be considered an essential nutrient that your body regularly needs large amounts of (i.e. several grams per day on average) for optimal health, which puts it in the same category as carbohydrates, protein and fats.

The best form is generally agreed to be sodium ascorbate – this is a “buffered” form of pure VC, which is ascorbic acid – as the name suggests as an “acid” it can cause issues to those with sensitive stomachs in large amounts. Sodium ascorbate is the only form used to create Intravenous Vitamin C (IVC), which is the best form to get if you have a serious illness. Very few people will have access to this, unfortunately, so let’s just assume you have access to powdered sodium ascorbate for now – if your health food store or chemist does not have access you may be able to get this in bulk on eBay, and if not there maybe from your local veterinarian (vets have been using VC in bulk for animal health for decades), or maybe even a bulk food wholesaler (as an anti-oxidant VC is used in all types of foods to increase shelf life, especially fruit juices – it’s food additive number 300, or E300 in Europe). There are differing opinions on the use of sodium ascorbate by those who have been told they are meant to be on a “low sodium diet” – you may want to try pure ascorbic acid instead, or discuss it with your doctor, if you’re lucky enough to find a doctor that has a decent level of understanding of the importance of “vitamins” in a healthy diet. Some doctors have said a “low sodium diet” is really a “low table-salt diet” and that people on one are not affected adversely by large amounts of VC.

Anyway, the protocol suggested by doctors to boost your immune system (or to be precise to get your immune system operating the way it used to when people had ready access to a decent supply of freshly picked fruits and vegetables) is to mix 2 slightly heaped teaspoons of sodium ascorbate (~10g – i.e. 10000mg) in a litre or so of cool liquid (preferably good quality water) in a flask and sip it throughout the day (say every 15-20 minutes). Do not use warm/hot liquids – VC breaks down in heat (so cooking fruits/vegetables reduces the amount of VC in

them). If you do not hit “bowel tolerance” (which means you start passing a lot of wind or get diarrhoea) then add another teaspoon the next day and repeat until you hit “bowel tolerance”, then back off a teaspoon or two the next day. Note that the amount you need can vary a lot, depending upon how old you are, how much you weigh, how healthy you are, how much VC you’re getting from other sources (especially fresh fruit and vegetables), etc etc. So you will need to vary this amount over time – if you’re really ill your body will be able to handle/require a lot more VC, whereas if you’re really healthy you might not need any supplemental VC at all (I’ve met exactly one person that fit into this category; in her early 20s, exercised daily, grew her own fruit and vegetables and hardly ever consumed processed food).

You can also leave the flask besides the bed and take a sip if you wake up during the night. Another way to keep your VC levels up during the night (especially if you’re really ill) is to have a capsule/caplet/whatever of slow-release/liposomal VC just before you go to bed – this is VC suspended in a lipid (oil/fat) which takes your body longer to break down, so keeps your levels up a bit longer. It’s also a lot more expensive than regular VC.

The amount above assumes you’re an adult human in roughly the normal weight range; if like me you’re carrying extra weight you’ll need a bit more as there is more body to keep healthy. If you’re younger you’ll generally need less; the 10g (10000mg) starting rate assumes you’re 10 years old or more; for those below 10 the suggested dosage is 1g/year of age, and for babies 0.1g/month of age. Breastfeeding babies will generally get plenty assuming their mother is healthy and taking enough.

Note that the above protocol is designed specifically to keep your immune system in good shape; there are other things as well to help this (e.g. prebiotics, probiotics, small amounts of other nutrients especially the other vitamins and Zinc, etc etc). Note also that the above protocol is NOT targeted at a specific illness – this is to help your body fight off all illnesses. As such you can follow this protocol AT THE SAME TIME as anything else your health professional has you doing, with a few rare exceptions. If you are having any form of medication you

should check with your health professional to ensure that they have no problem with you taking supplemental VC. Also if you are taking MMS you should not be taking supplemental VC – MMS and VC effectively cancel each other out, so you should be using one or the other, not both (although you could mix it up by doing a few days on one protocol and then a few days on the other; just not both at once). If you do not know what MMS is you'll need to look that up elsewhere; for various reasons I won't be discussing it here.

If you only have access to VC tablets – grind them up and dissolve them if possible; if they don't dissolve try breaking into pieces and having small bits during the day.

Now, for the major references – there are a heap more than these that have been published over the last century (especially since the 1970s) about the effectiveness of VC in helping the body recover from a number of illnesses, but these are the ones I believe are the most relevant at the moment (and most of these also refer to plenty of other sources): Most of the above protocol is based on the work of Drs Klenner and Cathcart:

http://www.doctoryourself.com/klenner_table.html

<http://www.doctoryourself.com/titration.html> Most of the books written by Steve Hickey and Hilary Roberts, which also have a wealth of references, starting with Ascorbate – The Science of Vitamin C:

<http://www.lulu.com/au/en/shop/steve-hickey-and-hilary-roberts/ascorbate/paperback/product-55574.html>

Vitamin C – Nature's Miraculous Healing Missile, compiled by Glen Dettman, Archie Kalokerinos and Ian Dettman
Every Second Child, by Archie Kalokerinos
Curing the Incurable, by Thomas E Levy
Cancer and Vitamin C, by Linus Pauling and Ewan Cameron
The China Study, by T Colin Campbell and Thomas M Campbell

Here's an interesting documentary about the apparent recovery of a man from swine flu a few years ago thanks to IVC, and the problems his family had with the medical establishment getting this treatment: <https://www.youtube.com/watch?v=GApXBaZuw14>

A doctor whose opinion I value very highly who has been researching Vitamin C for decades told me in the early 2000s that hospitals were being set up at the time in China to treat people for a number of illnesses, including cancer, with IVC (C9, H2). As such the reports coming out of China in the last few months concerning the treatment of people suffering from COVID-19 with IVC are hardly surprising:

<http://orthomolecular.org/resources/omns/index.shtml>

I would like to thank Alan for getting me interested in VC in the mid-90s – he mentioned to me at the time he was regularly taking 20-30g/day which bearing in mind my scientific training I thought at the time was ludicrous, and said as much. However, once I got over my prejudices enough to look into it I found he was basing his decision on sound data, and now do the same myself. I hope that the medical establishment can do the same in the near future.

UPDATE: On the 3rd December 2020 the ABC published a news story on their web site (<https://www.abc.net.au/news/2020-12-03/mega-dose-of-vitamin-c-treats-sepsis-florey-institute-austin/12939202>) which they followed up with a video segment in the 7pm news that night on how a “young Australian man who was critically ill with COVID-19 and suffering early stages of blood poisoning made a remarkable recovery after being given massive doses of vitamin C”. This was apparently the “same treatment the Florey researchers had trialled in animals”, and consisted of “an initial dose of 30 grams of sodium ascorbate (vitamin C) over 30 minutes, then a maintenance dose of 30 grams over six and a half hours”. Professor Bellomo said the changes were remarkable: “In a short period of time, we saw improved regulation of blood pressure, arterial blood oxygen levels and kidney function” and “The patient was able to be taken off machine ventilation 12 days after starting sodium ascorbate treatment and discharged from hospital without any complications 22 days later”.

So that's just two IV vitamin C treatments in the one day and someone suffering sepsis and kidney failure is OK a few weeks later; imagine what would happen if as a matter of course patients received this kind of treatment immediately upon being admitted (or preferably earlier). Words like "revolutionary" are then used – pity doctors aren't being taught what has been available in the literature for nearly a century concerning vitamins C and D.

Zinc

Unfortunately I've not done enough research to be as confident about suggesting a daily amount of Zinc (C8) or various other trace elements. The references on <http://www.doctoryourself.com/fatigue.html> suggest that daily doses of Zinc of 300mg+ could be harmful, but 50-150mg/day should be safe. Other sources suggest no more than 40mg/day long-term (but that's assuming you're already fairly healthy). The article at <https://www.ncbi.nlm.nih.gov/pubmed/22429343> suggests 10mg/day is helpful treating the common cold (which is a member of the coronavirus family), but that's in combination with only 1000mg (1g) Vitamin C, which as noted above is a pretty minimal dose. Most people that have access to enough food to keep them satisfied will already have decent levels of Zinc, especially if you are eating meat/seafood, yoghurt, cheese, lentils/baked beans, seeds and nuts. Zinc supplements from health food stores and pharmacies are readily available.

Water

Our bodies are around 50-65% water by mass. As such unless we continue to get a good supply of clean water we will get health issues (C10). This is especially the case when ill, as some of the main things our immune system does to get rid of bacteria and the like is to heat up our body and cause us to sweat, plus urinate more, plus vomit.

As such make sure you get enough water when ill – being dehydrated will only cause more stress on your body. 2L (8 cups) per day for adults is recommended; one way of working out whether you're getting enough is to check the colour of your urine – if it's close to clear then you may be having too much, if it's dark

yellow or brown you're probably having too little, and if it's a light yellow/straw colour you're probably having the correct amount. If it contains visible blood, or is cloudy or a different colour and you haven't been consuming a lot of strongly coloured food (beets/berries can turn your urine red/pink; some food colourings can turn it blue/green; see e.g. <https://www.healthline.com/health/urine-color-chart#color-chart>) then you should be talking to your health care professional about this.

Sleep

Lack of sleep, especially over a long time period, tends to depress the immune system and make us more susceptible to chronic diseases (C10) including depression, obesity, heart disease and Type 2 diabetes, to name but a few (<https://www.cdc.gov/chronicdisease/resources/infographic/sleep.htm>). To prevent this we need at least 7 hours sleep per night on average (https://www.cdc.gov/sleep/about_sleep/how_much_sleep.html), depending upon your age.

However it's estimated that as many as a third of people in the USA are not getting that much sleep, and the numbers would be similar in most industrialised countries that follow similar work patterns, including Australia, Canada, New Zealand and the UK. Economists have actually converted lost productivity and illnesses caused by poor sleep into dollar value effects on the economy – e.g. in the US it's around US\$411 billion a year, or 2.28% of the GDP (<https://theconversation.com/sleep-deprivation-costs-the-economy-billions-and-sends-workers-to-an-early-grave-69753>). As such make sure you get a decent night's sleep, *especially* if you are ill – if your work isn't too keen refer them to the above and inform them you're improving the state of the national economy



Other Nutrients

I've not spent as much time studying the role of other nutrients in boosting the immune system, so note that I have less confidence (C7) in recommending taking extra levels of the below over what you would normally get in a decent diet. The main thing to remember is that MOST

minerals and vitamins are indeed nutrients you only need in fairly small amounts, even when ill, and large amounts can actually do more harm than good. For example, the amount of selenium you get in just 1 Brazil nut is (more than) enough for a daily dose, and as few as 5/day over time could lead to you losing your hair and fingernails and having other problems.

In general you're always better off getting your nutrients from fresh food and vegetables plus a bit of meat if you can and are not vegetarian/vegan, but if stuck with pre-packaged foods in quarantine you may need to supplement to stay healthy. Plus, of course, plenty of good quality water and air.

Short Term Relief

I've been asked if there is anything else that most medical professionals are recommending if you are in the main "at risk" groups – i.e. elderly, smoker/asthmatic or someone else with compromised lung function, or already have a depressed immune system due to some underlying health issue (chronic condition like diabetes, acute illness like measles, etc). The short answer is that if you start developing a fever and cough then call an ambulance or your health professional (depending upon how badly you're feeling) and see what they say – you may very well need to go to hospital.

The following has been researched even less (C6) but may be useful. If you have a Salbutamol inhaler (e.g. Ventolin) or some similar acute asthma treatment that may give short-term relief. Otherwise you may get some relief from some of the more traditional treatments, e.g. steam therapy – pour some boiling water into a bowl (or preferably some container you can fix to a table), put in few drops of eucalyptus and/or tea-tree oil, put a towel over your head and the container and breathe the steam from around 20cm/8" away with your eyes closed (see e.g. <https://www.bosistos.com.au/content/steam-therapy-o>) – you can also get hand-held inhalers and vaporisers. In addition to helping clear the airways, this MAY (I stress MAY) help kill some bacteria and viruses – many coronaviruses break down in heat and close to 100% humidity (see e.g. <https://www.ncbi.nlm.nih.gov/pubmed/14631830>). I stress that this is likely to give

you short-term relief at best – on its own it is very unlikely to cure you of a serious infection.

Ultraviolet light is also a potent killer of most bacteria, fungi and viruses – in most countries you can readily obtain cheap UVC hand-held sterilisers, which are good for use on surfaces (especially porous surfaces that you can't really use soap and water or other cleaning products on) for preventing the spread of infection to others (C8). You need to be careful with these, however – they can damage your eyes if you look at the light for any length of time, and unlike UVA/UVB these will not really help you to generate vitamin D, but will cause bad sunburn if you expose your skin to it for any significant length of time.

“Feed a cold, starve a fever” or vice versa – they're both right/wrong; in virtually all cases of illness (unless advised otherwise by your health care professional) you should keep up adequate nutrition to ensure your immune system has the necessary energy and nutrients to fight off infection. The old favourite chicken soup is good – especially the original recipes that have the soup made from bone broth, which is rich in vitamins and nutrients.

Silver and Copper

I've been asked about using colloidal silver. Although there are lots of medicos going on about how colloidal silver is only suggested by quacks and is useless applied topically or taken internally, that may not be the case (C7).

It has been known since pre-history that silver is effective against “germs”, which is one of the main reasons that rich families had cutlery, plates and drinking containers made out of it. Even [Wikipedia](#) admits that there are legitimate uses for silver in medicine, and that it was used up until the 1940s by medical doctors as an antibiotic and anti-fungal medicine. See also [“Antimicrobial Silver in Medicinal and Consumer Applications: A Patent Review of the Past Decade \(2007–2017\)”](#). You can still purchase various dressings (band-aids and the like) which contain silver for topical use to prevent infection and for helping heal leg ulcers.

So, is there any evidence to suggest colloidal silver may be an effective antibiotic against some bacteria? Yes. See, for example, [“Mechanistic Basis of Antimicrobial Actions of Silver Nanoparticles”](#) and the articles linked off that paper. Here’s a few more: [“Antibacterial activity of nanosilver ions and particles”](#), [“Spectrum of antimicrobial activity associated with ionic colloidal silver”](#), [“Antimicrobial Effects of Silver Nanoparticles Stabilized in Solution by Sodium Alginate”](#).

However, these have all been on the topical use of silver, or action against bacteria in test tubes, which does not always translate to an effective oral human antibiotic. Even the research that only a few years ago [nailed down why silver is so effective against bacteria](#) was basically done in test tubes, plus a few mice. A 2006 patent [“Treatment of Humans with Colloidal Silver Composition”](#) mainly discusses research in test tubes, but does also include discussion on actual use by humans in various parts of the world (although their sample sizes are quite small and may have been cherry-picked).

What about as an antiviral? Once again, Yes. It’s already been announced in the news that coronaviruses do not live very long on copper surfaces, and based on history and other viruses (see e.g. [“Survival of Influenza A\(H1N1\) on Materials Found in Households: Implications for Infection Control”](#)) one would expect the same with silver. [“Silver Nanoparticles: Synthesis, Characterization, Properties, Applications, and Therapeutic Approaches”](#) and many of its references discusses the use of silver against not only bacteria and viruses, but also many forms of cancer. [“Silver Nanoparticles as Potential Antiviral Agents”](#) is pretty self-explanatory. Dr Paul Maher also discusses many studies in [“Silver is A Broad Spectrum Anti-Viral”](#).

So, that’s the positive spin, but as with most forms of medicine there are issues. Because silver is such a potent anti-fungal, you should definitely NOT be using it in conjunction with antibiotics like penicillin, as nearly all antibiotics are some form of fungi. There are several other medicines you should not be using it in conjunction with as well, so as normal you need to consult your health practitioner. Another issue is the health of your gut microbiome, which is an essential part of your immune system. It, too, is made up of mainly bacteria, so just as with a prescribed antibiotic, colloidal silver can cause issues that require

prebiotics and probiotics to address after use. Whilst “Repeated dose (28 day) administration of silver nanoparticles of varied size and coating does not significantly alter the indigenous murine gut microbiome” seems to indicate that colloidal silver might not affect the balance of the different varieties of bacteria in your gut, and perhaps even suggests it doesn't even reduce the amount, other publications like “Gut Dysbiosis and Neurobehavioral Alterations in Rats Exposed to Silver Nanoparticles” and “Review of the effects of silver nanoparticle exposure on gut bacteria” suggest silver can affect your gut microbiome.

We also know that long-term low-level use of colloidal silver CAN be hazardous to your health, causing argyria, which can result in your skin turning blue and potentially causing minor eye damage (reduction of night vision), and perhaps reduced kidney function. However, even the most severely affected people do not appear to have died from it, and it generally takes years to reach this stage, so unless you're one of the unlucky people that are allergic to silver (and there are a few people out there), the negative health implications tend to be pretty minimal.

So what is the take-home message? Common wisdom would be to treat it like any other antibiotic; even if you aren't taking any other medicine that could be disrupted by silver, and your medical practitioner did say that taking it shouldn't be a problem, you would be advised to have it whilst you are ill and for a bit longer thereafter, and make sure you have prebiotics and probiotics during and after to ensure your gut microbiome is in good health.

Copper has a similar effect and may be as effective in colloidal form (C7). Copper has the advantage of being a lot cheaper than silver (under 1% of the price), so is cheap enough that you can put it in places where you would do a lot of handling, especially in public buildings. That means that there is likely to be a lot less spreading of bacteria, viruses and fungi spores by touch, as they can not survive very long on a copper surface. So, given the opportunity it makes sense to put copper coatings on door knobs and push plates, handles, taps, toilet pull-chains, handrails and the like. Some hospitals and at least one theme park have acted on this already:

Hopefully you will find the above useful. Good luck.

<https://thehonestscientist.com/staying-healthy/>